ISSN (print) 0093-4666 © 2015 Mycotaxon, Ltd. ISSN (online) 2154-8889

MYCOTAXON

http://dx.doi.org/10.5248/130.1209

*Volume 130, pp. 1209–1211* *October–December 2015*

# Book reviews and notices*

Abstract—Books reviewed include Distribution, ecology & status of 51 macromycetes in Europe (Fraiture & Otto 2015).

## Fungal conservation

**Distribution, ecology & status of 51 macromycetes in Europe. Results of the ECCF Mapping Programme.** By A. Fraiture & P. Otto (eds), 2015. Scripta Botanica Belgica 53. <http://shopbotanicgarden.weezbe.com> ISBN 978-9-082-35255-9; 247 p, numerous maps and illustrations. Price € 25.00.

One of the main obstacles for fungal conservation is knowledge about distribution, ecology, life history, and changes in occurrence over an entire area. This is particularly well understood by the European Council for the Conservation of Fungi, which has worked for the last decade and a half on gathering that type of information for 50 species of easily recognizable basidiomycetes and ascomycetes that have been considered threatened in several countries in Europe, representing different vegetation types and distribution patterns. The final list covers 51 species, because it became clear that *Poronia punctata* records represented two species, *P. punctata* and *P. erici*, and both are included in the final list. Another criterion was that at least two of those 50 species should occur in each country.

National coordinators gathered the data concerning these species, and the two editors, with help from mapmakers and others, compiled all data (including those from the literature) in the present publication. The maps use a UTM grid on which the dots represent areas up to 2500 km$^2$.

The introduction gives an overview of the various problems that must be overcome in such a collaborative project concerning the occurrence of

* Book reviews or books for consideration for coverage in this column should be sent to the *Editor-in-Chief* at editor@mycotaxon.com or 6720 NW Skyline, Portland OR 97229 USA.

ephemeral basidiomes, discusses distribution patterns among species linked to vegetation, climate, and host trees, and provides a list of the contributing countries and their mycological coordinators.

The main part of the book gives the information about the species. For each species, the accepted name, notes on nomenclature, an abstract, geography, nutritional mode and host, habitat, phenology and frequency, and threats and conservation status are given. Also presented are photos of the fungi and a distribution map comparing data before and after 1970, and in some cases a map of the host tree.

In other words, a wealth of information is presented so that distribution patterns independent of the inventory efforts emerge, and generalizations can be made beyond the separation of northern and southern species.

Changes in distribution are not easily inferred from the maps, but a few species, especially some hydnaceous fungi, do show a distinct decrease in records over at least part of their area. Decline is also very apparent for *Poronia punctata*, although it maintains a stronghold in those countries where horses are used for nature management purposes.

This is not the first publication on macromycete distribution in Europe; Lange (1974) compiled data during an earlier similar initiative that did not focus on threatened fungi but was similarly aimed at producing information on fungi throughout Europe. Her publication also covered 50 species, ten of which are included in the 2015 work. Increase in mycological activities in the Mediterranean countries since 1974 is very obvious in maps of *Amanita caesarea* and *Panaeolus (Annellaria) semiovatus*.

Of course, there are mistakes and things that could have been done better. For instance, I miss a map showing the coverage of national mapping and recording schemes (before and after 1970) that would be particularly insightful for indicating distribution patterns within Russia. There are several small mistakes in the nomenclature and references (e.g., Berkeley and Brome instead of Berkeley and Broome; omission of the combination authority for *Craterellus melanoxeros;* and misspelling of an author's name, Nieves-Rivera). The text would have been easier to read if a native English speaker had reviewed it. Some species represent a group of species – this has been recognized for *Pisolithus arrhizus*, but it is also the case for *Battarrea phalloides* (Martín et al. 2013), and *Sarcosphaera coronaria* (compare nrITS data in Genbank). And, the occurrence of European species in North America and elsewhere outside Europe should be critically approached. The western North American "*Entoloma bloxamii,*" which has been shown to differ from the European species, has recently been described as a separate species, *E. medianocte* (Morgado et al. 2013; Schwarz

2015), while the ITS sequences of *Suillus umbonatus* from western North America are identical to those of European *S. flavidus*.

However, these are all small comments on a project that has to be fully applauded. We hope the project will be followed up in Europe and serve as an inspiration for similar work on other continents. In a divided Europe, this is also a sign of hope that collaboration and cooperation are both possible and deliver results.

Lastly, I hope that the data will serve as a baseline for conservation of fungi on a larger scale than that of country or region, and that it will show politicians that fungi, just like animals and plants, need protection.

Lange L. 1974. The distribution of macromycetes in Europe. Dansk Botanisk Arkiv 30 (1): 1–105.

Martín MP, Rusevska K, Dueñas M, Karadelev M. 2013. *Battarrea phalloides* in Macedonia: genetic variability, distribution and ecology. Acta Mycologica 48: 113–122.

Morgado LN, Noordeloos ME, Lamoureux Y, Geml J. 2013. Multi-gene phylogenetic analyses reveal species limits, phylogeographic patterns, and evolutionary histories of key morphological traits in *Entoloma* (*Agaricales, Basidiomycota*). Persoonia 31: 159–178.

Schwarz C. 2015. Nomenclatural novelties. Index Fungorum no. 220.

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## Book Announcement

**Keys to Lichens of North America**. Revised and expanded. By I.M. Brodo, 2016. Yale University Press, P.O. Box 209040, New Haven, CT 06520-9040, USA; <sales.press@yale.edu>. ISBN 978-0-300-19573-6; 424 p., 13 color + 33 black & white illustrations. Price US$ 29.95.